

CLAIMS

1. A method for supply of a starter culture with a consistent quality comprising the steps of:

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(i) supply of a stock inoculum material comprising a concentrate of starter culture organism cells;

(ii) use of, for subsequent production of starter cultures, a subset of said stock inoculum material for direct inoculation of a cultivation medium with said starter culture organism;

(iii) propagation of the cells of the starter culture organism for a period of time adjusted sufficiently in size to produce a desired amount of said cells; and

15 (iv) harvest of the propagated cells to provide a starter culture.

2. A method according to claim 1, wherein the stock inoculum material provided in step (i) is in quantities sufficient to inoculate at least 50,000 litres of cultivation medium.

20 3. A method according to claim 1, wherein the concentrate provided in step (i) contains at least 10^8 CFU per g.

4. A method according to claim 1, wherein the subset of the stock inoculum material in step (ii) is directly inoculated in the cultivation medium at a rate of maximum 0.1%.

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5. A method according to claim 1, wherein the amount of the subset of the stock inoculum material for direct inoculation of the cultivation medium in step (ii) provides a ratio of the CFU per g of cultivation medium, immediately after inoculation, relative to the CFU per g of the subset of the stock inoculum material to be inoculated, said ratio being in the range from 1:100 to 1:100,000.

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6. A method according to claim 1, wherein the cultivation medium immediately after the inoculation in step (ii) contains a number of CFU per g of cultivation medium which is at least 10^5 .

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5 8. A method according to any of the claims of 1 to 7, wherein the stock inoculum material and/or the subset of the stock inoculum material is in a state selected from the group consisting of a liquid, frozen and dried state.

10. A method according to claim 8, wherein the subset of the stock inoculum material is combined with an aqueous medium to obtain a suspension of the cells before adding it to the cultivation medium in step (ii).

20 12. A method according to any of the claims of 1 to 11, wherein the stock inoculum material is provided in sealed enclosures.

13. A method according to claim 12, wherein the sealed enclosures are made of a flexible material selected from the group consisting of a polyolefin, a substituted olefin, a
25 copolymer of ethylene, a polypropylene, a polyethylene, a polyester, a polycarbonate, a polyamide, an acrylonitrile and a cellulose derivative.

14. A method according to claim 12, wherein the sealed enclosures are made of a flexible material comprising a metal foil.

30 15. A method according to claim 12, wherein the sealed enclosures have a cubic content of at least 0.01 litre.

16. A method according to claim 12, wherein the sealed enclosures are provided with
35 outlet means for connection of the enclosure to the container comprising the liquid

cultivation medium, said outlet means permitting the concentrate of cells to be introduced substantially aseptically into the container to inoculate the liquid cultivation medium with said concentrate.

- 5 17. A method according to any of the claims of 1 to 16, wherein the starter culture organism in step (i) originates from a species selected from the group consisting of a lactic acid bacterial species, a *Bifidobacterium* species, a *Propionibacterium* species, a *Staphylococcus* species, a *Micrococcus* species, a *Bacillus* species, an *Enterobacteriaceae* species including *E. coli*, an *Actinomycetes* species, a
- 10 *Corynebacterium* species, a *Brevibacterium* species, a *Pediococcus* species, a *Pseudomonas* species, a *Sphingomonas* species, a *Mycobacterium* species, a *Rhodococcus* species, a fungal species and a yeast species.

18. A method according to claim 17, wherein the lactic acid bacterial species is selected
- 15 from the group consisting of *Lactococcus* spp., *Lactobacillus* spp., *Leuconostoc* spp., *Pediococcus* spp., *Oenococcus* spp. and *Streptococcus* spp.

19. A method according to any of the claims of 1 to 18, wherein the stock inoculum material in step (i) comprises at least two starter culture strains.

- 20 20. A method according to any of the claims of 1 to 19, wherein the starter culture is selected from industries from the group consisting of the food, feed and pharmaceutical industry.

- 25 21. A method according to any of the claims of 1 to 20, wherein the starter culture is used for inoculation of milk which is further processed to obtain a dairy product, which is selected from the group consisting of cheese, yoghurt, butter, inoculated sweet milk and a liquid fermented milk product.

- 30 22. A method according to any of the claims of 1 to 21, wherein the cells being propagated in the cultivation medium express a desired gene product or produce a desired product.

23. A method according to claim 22, wherein the desired gene product is selected from the group consisting of enzymes, pharmaceutically active substances, polysaccharides and amino acids.
- 5 24. A method according to claim 22, wherein the desired product is selected from the group consisting of pigments, flavouring compounds, emulsifiers, vitamins, growth-stimulating compounds, food additives and feed additives.